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Stephen Gold

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EXAMINER

ELMORE, REBA I

ART UNIT

PAPER NUMBER

2189

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/723,950	Applicant(s) GOLD ET AL.	
	Examiner Reba I. Elmore	Art Unit 2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10,12,14 and 16-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,10,12,14 and 16-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-47 are presented for examination. Claim 47 was added as a dependent claim in the amendment filed April 2, 2008. Claims 48-51 were added by the amendment filed July 6, 2009.

DRAWINGS

2. The objection the Figure 1 is ***maintained***. There are no details given in this figure to distinguish over the prior art. The 'DATA MANAGEMENT SYSTEM' also does not show any details which would qualify as showing features of the present invention. The labels used in this figure are so broad as to encompass any and all protected computer systems, including those described within the specification and data management systems are also not new in the art.

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

4. The Applicant states in the arguments of the Appeal Brief on page 6 that protected computer systems may comprise 'personal computers, work stations, servers, combinations of such devices, and/or other electrical devices capable of providing or accessing electronic data'. All of these elements are common and well known, therefore, a drawing that comprises protected computer systems and a data management system are all known. Figure 1 does not contain any elements of the inventive qualities of the present invention.

5. Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

SPECIFICATION

6. The objection to the title is ***maintained***. The current title is vague to the point of not conveying any distinction of the current claimed present invention over any other data storage system or method. The title being proper because of its correspondence with the claim preambles does not meet the requirements for a title which includes the inventive concept of the present invention. The Applicant has not invented a data management system, per se, an article of manufacture, per se, a data storage method, per se or an electrical system. These are nothing more than fields of endeavors or broad concepts already present in the public domain. None of these preambles encompass the inventive nature of the present invention and are therefore inadequate as a title. If a proper descriptive title is not provided by the Applicant, the examiner will provide a title if the application is allowed. See 37 CFR 1.72(a) and MPEP § 606.

7. The objection to the specification for not providing a summary of the invention which meets the suggested guidelines is ***maintained***. Eliminating the previous summary of the invention does not negate the need of this section of the specification. *Each section of the specification provides a different function in explaining the present invention to the public once an application is allowed and becomes a patent.*

Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the

nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

Appropriate correction is required.

8. The objection to the disclosure for introducing new matter is ***withdrawn*** due to the remarks.

9. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

35 USC § 112, 1st Paragraph

10. The rejection of claims 1-47 as failing to comply to requirements for an adequate written description is ***withdrawn*** due to the amendment and the remarks.

35 USC 112, 2nd Paragraph

11. The rejection of claims 1-47 as failing to particularly point out and distinctly claims the subject matter is ***withdrawn*** due to the amendment and the remarks.

35 USC § 101

12. The rejection of claims 21-32 and 41-42 is ***maintained*** and repeated below with the addition of claims 48-49 to the rejection. Claims 33-36 are ***removed*** from the rejection based on the claims adding new storage device based on a determination of monitoring the capacities of the storage devices using storage control circuitry.

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 21-32, 41-42 and 48-49 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 48-49 are added to this rejection

15. Independent claim 21 is directed to an article of manufacture. Paragraph 0067 of the present specification states processor usable media includes infrared media. The paragraph also states articles of manufacture are alternately embodied within a data signal (e.g., carrier wave, data packets, etc.). Technology such as carrier waves and infrared media are solely functional for transferring data, however, this type of technology cannot store data or maintain data. These claims are therefore non-statutory subject matter.

16. Dependent claims 22-23 and 41 fail to overcome this deficiency.

17. Claims 24-32 and 41 as well as claims 33-36 are method claims (i.e., a process), which on its face appears to fall into one of the four statutory categories of invention. However, for purposes of § 101, a 'process' has been given a specialized, limited meaning by the courts.

Based on Supreme Court precedent [*Diamond v. Diehr*, 450 US 175, 184 (1981); *Parker v. Flook*, 437 US 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 US 63, 70 (1972); and *Cochrane v. Deener*, 94 US 780, 787-88 (1876)] a statutory § 101 process must: (1) be tied to another statutory class (such as a particular apparatus or article of manufacture) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing.

If neither of these requirements have been met by the claim, the method is not in fact a patent eligible process under § 101.

In the present application, claim 24 contains no limitation which ties the claim to a particular apparatus or an article of manufacture, and claim 24 does not contain any limitations which transform underlying subject matter to a different state or thing.

The following analysis applies:

Claim 24 recites the following limitations:

providing a plurality of storage devices configured to store data for a plurality of protected computer systems, wherein the storage device individually comprise processing circuitry and a storage space;

monitoring capacities of individual ones of the storage devices;

associating one of the protected computer systems with one of the storage devices responsive to the monitoring; and

implementing storage operations of the data for the associated one of the protected computer systems using the associated one of the storage devices in accordance with the associating.

however, these method steps do not tie the claim language to particular apparatus or article of manufacture, because:

the sum of elements recited, and taken as a whole, fail to recite any combination of elements which an artisan would consider to constitute the scope of a particular apparatus or article of manufacture, instead they only recite a non-particular list of unconnected items: storage, devices, associating, protected computer systems, monitoring capacities, and implementing storage operations. The Applicant clearly states the protected computer system is equivalent to any and all computer systems as all computer systems generate data and store data. This fails to meet the requirements for a particular apparatus or particular article of manufacture (especially as the Applicant has stated the protected computed systems are systems which generate data and store data), i.e., these limitations fail to recite any particular physical apparatus performing the steps of the method, because no such physical computer actor or agent is named.

Since the items also lack any substantive structural interconnectivity, they fail to suggest to an artisan that the claim is directed towards (tied to) a particular apparatus or article of manufacture;

further, the steps of the method do not transform underlying subject matter (such as subject matter representing a physical entity or thing) to a different state or thing.

Dependent claims 25-32 and 42 fail to recite any further step or feature which would overcome this deficiency and so inherit the deficiency.

In the present application, claim 24 contains no limitation which ties the claim to a particular apparatus or an article of manufacture, and claim 24 does not contain any limitations which transform underlying subject matter to a different state or thing.

35 USC § 102

18. The rejection of claims 1-7, 9-10, 12, 14 and 16-46 as being anticipated by Wahl et al. is still ***maintained*** and claim 47 is added to the rejection. The rejection has been updated to include the amendments to claims 48-51. Claims 8, 11, 13 and 15 are removed due to being cancelled from the present claimed invention.

19. The Wahl reference has been applied with the understanding that different types of protection are taught. The data is protected, also the system is taught as being a SPARC environment which limits or protects the operating system from commands from other computer languages than Solaris 2.X as well as prevents the secondary computer system from executing applications when the proper authority has not be established. Additionally, access to the mirror devices of the secondary computer system can be denied dependent upon the operational mode. All of these aspects of the Wahl reference are concepts directed toward protection of a computer system or within a computer system.

20. The following is a quotation of the appropriate paragraphs of 35 USC 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 1-7, 9-10, 12, 14 and 16-51 are rejected under 35 USC 102(b) as being anticipated by Wahl et al. (P/N 6,442,706).

22. Wahl teaches the invention (claims 1 and 43) as claimed including a data management system comprising:

a data storage system configured to store data of a plurality of protected computer systems, wherein the data storage system comprises a plurality of storage devices individually having a respective capacity, and a quantity of the data of the protected computer systems to be stored exceeds capacities of individual storage devices as using a RAID system for back-up or mirror storage of database files (e.g., see col. 24, lines 5-24) the reference also discusses overflow conditions for memory elements which teaches the storage capacity being exceeded (e.g., col. 3, lines 24-37); and,

storage control circuitry coupled with the data storage system and configured to assign individual storage devices to store data for respective protected computer system (e.g., see col. 5, line 32 to col. 6, line 27 and col. 24, lines 5-24).

As to claim 2, Wahl teaches the storage control circuitry is configured to receive a request to add a new protected computer system and to assign one of the storage devices to implement data storage operations with respect to the new protected computer system as the network having more than one secondary computer system (e.g., see col. 6, lines 34-58).

As to claim 3, Wahl teaches the storage control circuitry is configured to monitor a status of at least one storage device and to assign a storage device for the new protected computer

responsive to the monitoring as using throttles (e.g., see col. 15, lines 1-29).

As to claim 4, Wahl teaches the monitoring a processing capacity of an archive agent of at least one storage device as using a throttle which monitors percentages of central processing unit resources (e.g., see col. 15, lines 1-29).

As to claims 5 and 44, Wahl teaches the monitoring a storage capacity of a storage device as monitoring the capacity of the write-log (e.g., see col. 15, lines 1-29).

As to claims 6 and 45, Wahl teaches monitoring a status of a plurality of storage devices and assigning the storage device having a greatest available capacity as dynamically assigning disk storage space (e.g., see col. 3, lines 24-37).

As to claims 7 and 46, Wahl teaches entireties of the data for the protected computer systems are stored using respective assigned storage devices as a feature of the Qualix DataStar software which controls the data mirroring environment of the disk system (e.g., see col. 5, line 57 to col. 6, line 27).

As to claims 9 and 47, Wahl teaches the storage control circuitry is configured to assign a plurality of storage devices to store an entirety of the data for one of the protected computer systems as mirrored data (e.g., see col. 10, line 62 to col. 12, line 20).

As to claim 10, Wahl teaches the storage control circuitry comprises a tracking database configured to store associations of the storage devices with respective protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 12, Wahl teaches at least one storage device is configured to store data for a plurality of the protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 14, Wahl teaches the storage control circuitry comprises a master cell manager and at least one slave cell manager and wherein the master cell manager is configured

to assign one of the protected computer systems to a storage device associated with at least one slave cell manager with the master cell manager being the primary mirror daemon and the slave cell manager being the remote mirror daemon (e.g., see Figure 1).

As to claim 37, Wahl teaches the present invention wherein the protected computer systems are external of the data management system as data devices being external to the file system or RDBMS (e.g. see Figure 1, elements 28 (the processing system) and elements 16, 18, 18A and 32 which are data devices).

A to claim 38, Wahl teaches the present invention wherein the protected computer systems are associated with respective different entities and the protected computer systems are independent and not associated with one another as the protected computer systems are different systems comprising the network (e.g. see col. 1, lines 12-25).

As to claim 39, Wahl teaches the present invention wherein the plurality of storage devices individually comprise processing circuitry and a physical storage space, and the processing circuitry of the storage devices are configured to control storage operations of respective ones of the physical storage devices as a computer network which uses remote data mirroring systems to protect the data stored on the computer systems attached to the network (e.g. see col. 5, line 31 to col. 6, line 27).

As to claim 40, Wahl teaches the present invention wherein the storage devices are associated with one another and the storage control circuitry is configured to implement data storage operations with respect of individual ones of the storage devices as the storage devices are used to mirror data from a different computer system in the network (e.g. see col. 5, line 31 to col. 6, line 27).

23. Wahl teaches the invention (claim 16 and 38-46) as claimed including a data

management system comprising:

plural means for storing electronic data, wherein individual ones of the plural means for storing comprise a respective data storage capacity as the data storage capacity of the primary storage system (e.g., see Figure 5);

means for communicating data intermediate to the plural storage means and a plurality of protected computer systems, wherein a quantity of data of the protected computer systems exceeds individual data storage capacities of individual means for storing as dynamically assigning memory space dependent upon overflow conditions (e.g., see col. 3, lines 24-54); and,

means for assigning individual ones of the means for storing to store data for respective client protected computer systems (e.g., see col. 3, lines 24-54).

As to claim 17, Wahl teaches the plurality means for storing individually comprise means for storing an entirety of the data for a respective protected computer system (e.g., see Figure 1).

As to claim 18, Wahl teaches plural ones of the means for storing comprise means for storing an entirety of the data for a respective protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 19, Wahl teaches a tracking means for storing information regarding associations of individual plural means for storing with respective protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 20, Wahl teaches the plural means for storing individual archive means and physical storage means (e.g., see Figure 5).

As to claim 47, Wahl teaches the present invention wherein the protected computer systems are individually configured to communicate the data to the data management system via a network as Figures 1, 3 and 5 showing using the network. The reference teaches a computer

network remote data mirroring system thereby also teaching data protection.

24. Wahl teaches the invention (claim 21) as claimed including an article of manufacture comprising:

a processor-usable medium comprising processor-usable code configured to cause processing circuitry of storage control circuitry as the Qualix DataStar software which controls the data mirroring environment of the disk system (e.g., see col. 5, line 57 to col. 6, line 27) to:

access information regarding a plurality of storage devices (e.g., see Figure 5);

access information regarding a plurality of protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29);

associated individual protected computer systems with respective storage devices (e.g., see col. 23, line 61 to col. 24, line 29);

receive a request to add a new protected computer system (e.g., see col. 3, lines 24-37);

monitor capacities of the storage devices (e.g., see col. 5, line 57 to col. 6, line 58); and,

assign the new protected computer to a storage device responsive to the monitoring (e.g., see col. 5, line 57 to col. 6, line 58).

As to claim 22, Wahl teaches the processor-usable code is configured to cause the processing circuitry to associate responsive to user input as utilizing a graphical user interface (e.g., see col. 15, lines 30-53).

As to claim 23, Wahl teaches the processor-usable code is configured to cause the processing circuitry to associate responsive to the monitoring as using the macro language of throttles (e.g., see col. 15, lines 1-29).

As to claim 41, Wahl teaches the present invention wherein the storage control circuitry and the plurality of storage devices are components of a data management system which is configured to store data of the protected computer systems and wherein the protected computer systems are external of the data management system and the storage devices as individual computers in a network with the computers having external storage devices (e.g. see Figures 1 and 5).

25. Wahl teaches the invention (claim 24) as claimed including a data storage method comprising:

providing a plurality of storage devices configured to store data for a plurality of protected computer systems, wherein the storage devices individually comprise processing circuitry and a storage space as using a RAID system for back-up or mirror storage of database files (e.g., see col. 24, lines 5-24);

monitoring capacities of individual storage devices as using throttles which monitor percentages of central processing unit resources (e.g., see col. 15, lines 1-29);

associating one of the protected computer systems with one of the storage devices responsive to the monitoring (e.g., see col. 15, lines 1-29); and,

implementing storage operations of the data for the associated protected computer system using the associated storage devices in accordance with the associating (e.g., see col. 24, lines 5-24).

As to claim 25, Wahl teaches a quantity of data of the protected computer systems to be stored exceeds individual capacities of individual storage devices (e.g., see col. 3, lines 24-37).

As to claim 26, Wahl teaches maintaining a record of the association of the storage device and one protected computer system (e.g., see Figure 5).

As to claim 27, Wahl teaches the monitoring comprises monitoring storage capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 28, Wahl teaches the monitoring comprises monitoring processing capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 29, Wahl teaches the monitoring and assigning comprise monitoring and assigning using storage control circuitry (e.g., see col. 15, lines 1-29).

As to claim 30, Wahl teaches providing the storage control circuitry comprises a distributed control system (e.g., see col. 5, line 32 to col. 6, line 58).

As to claim 31, Wahl teaches associating a protected computer system with a storage device having a greatest available capacity as dynamically assigning disk storage space (e.g., see col. 3, lines 24-37).

As to claim 32, Wahl teaches transferring at least a portion of the data of a protected computer system from the storage device to another storage device (e.g., see Figure 5).

As to claim 42, Wahl teaches the present invention wherein the providing the plurality of storage devices comprises providing the storage devices of a data management system external of the protected computer systems (e.g. see Figures 1 and 5), and further comprising storing data using storage circuitry of the protected computer systems and storing the data of the protected computer systems using respective ones of the storage devices associated with the protected computer systems as a computer network which has computer systems doing remote data mirroring utilizing a Solaris 2.X series operating system with a Sun SPARC or UltraSPARC systems (e.g. see col. 5, line 32 to col. 6, line 27).

As to claim 48, Wahl teaches the present invention wherein the monitoring, the associating, and the implementing comprise acts performed by processing circuitry of the data

management system (e.g. see Figure 1 with support at col. 5, line 31 to col. 6, line 48).

As to claim 49, Wahl teaches the present invention wherein the implementing storage operations comprises storing the data for the associated one of the protected computer systems using the associated one of the storage devices as networked computer systems which protect data using mirroring (e.g. see Figure 1 with support at col. 5, line 31 to col. 6, line 48).

26. Wahl teaches the invention (claim 33) as claimed including a data storage method comprising:

a plurality of storage devices configured to store data for a plurality of protected computer systems, the storage devices individually comprising processing circuitry (e.g., see Figure 1);

storing the data using the storage devices (e.g., see Figure 1);

monitoring capacities of the storage devices using storage control circuitry as dynamically assigning disk storage space (e.g., see col. 3, lines 24-37);

providing a new storage device configured to store data for at least one of the protected computer system (e.g., see col. 23, line 61 to col. 24, line 64); and,

coupling processing circuitry of the new storage device with the storage control circuitry (e.g., see Figure 5).

As to claim 34, Wahl teaches monitoring capacity of the new storage device using the storage control circuitry after the coupling (e.g., see col. 15, lines 1-29).

As to claim 35, Wahl teaches monitoring processing capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 36, Wahl teaches monitoring storage capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 50, Wahl teaches the present invention wherein the monitoring comprising monitoring using processing circuitry of the data management system as networked computer systems which protect data using mirroring which require monitoring (e.g. see Figure 1 with support at col. 5, line 31 to col. 6, line 48).

As to claim 51, Wahl teaches the present invention further comprising storing the data for the protected computer systems using the storage devices of the data management system as networked computer systems which protect data using mirroring which require monitoring (e.g. see Figure 1 with support at col. 5, line 31 to col. 6, line 48).

27. As to claims 2-18, 22-23, 38-41 and 44-47, the claimed invention is directed toward a system, an article of manufacture and a network, all of which are considered structure or hardware. The 'wherein' clauses for the system, article and network claims have been rejected using art but the 'wherein' language cannot be further relied upon for patentability in hardware style claims. Claims 1-15, 21-23 and 41-47 are not interpreted as means-plus-function claims as they are not written in a style or manner indicative of such a claim structure. Claim limitations of 16-20 are also considered to be structural equivalents since the present application is silent as to the equivalencies for the '*plural means for storing electronic data*', '*means for communicating data*' and '*means for assigning*'. Therefore MPEP 2114 is pertinent to the application of art to the above hardware claims. The wherein clauses are directed to functions rather than structure and the cited section of the MPEP states ">an< apparatus must be distinguished from the prior art in terms of structure rather than function" as the same structure is capable of performing the same type of functionalities.

RESPONSE TO APPLICANT'S REMARKS

28. Applicant's arguments filed July 7, 2009 have been fully considered but they are not

persuasive. Limitations of the claims are being argued in much greater detail than warranted by the actual claim language. Also, the reference is not being considered as a whole in teaching the claimed limitations by the Applicant.

29. The refusal to amend the title to encompass inventive concepts of the present invention is noted. If the application is considered allowable an appropriate title will be provided by the Examiner.

30. According to the explanation for the meaning of 'protected computer systems', any computer system meets the criteria according to the Applicant's remarks. All computer systems generate data as well as stores data. Protecting data is not traditionally equivalent to either generating or storing data, therefore, the term 'protected computer systems' has not be adequately described. The Applicant's definition of this language is used in applying the prior art.

31. As to the Wahl reference not teaching a plurality of protected computer systems, the Applicant has stated several times that 'protected computer systems' are well known in the art for computer systems and network computer systems. Paragraph 0021 of the present specification states:

"[0021] Protected computer systems 14 are configured to generate electronic data to be stored for subsequent retrieval and access. Exemplary protected computer systems 14 may comprise personal computers, work stations, servers, combinations of such devices, and/or other electrical devices capable of providing or accessing electronic data. In one embodiment, protected computer systems 14 comprise respective electronic file systems or groups of electronic file systems."

32. As to the reference not disclosing positively-recited limitations, the exact language of the claims is interpreted for applying prior art. The concepts of the claimed limitations are taught which teaches the claimed limitations to the extent required by the reference.

33. As to the Wahl reference not teaching a primary computer system storing data of any other devices, Figure 5 clearly shows a primary system (element 12) storing data to local disk devices (elements 16) and using a primary mirror daemon (PMD - element 24) sending and data to a secondary system (element 14) which stored data to a plurality of mirrored disk devices (elements 32) using a remote mirror daemon (RMD – element 30). The reference definitely teaches a primary computer system as well as the secondary system storing data to other devices. The claim language is taught to the extent required by the actual claim language.

34. As to the Wahl reference not teaching the secondary computer system storing data of a single device failing to teach or suggest the claimed limitations of the data storage system configured to store data of a plurality of protected computer systems, the background of the references clearly states the computer network remote data mirroring system operates over different network configurations and is compatible with many different local and remote disk storage devices.

35. As to the Wahl reference not teaching *'a plurality of storage devices and a quantity of data of the protected computer systems to be stored exceeds capacities of individual ones of the storage devices'*, these limitations are taught by the reference. The claim language indicates *'to be stored'* which is interrupted as a check to determine whether the amount of data to be stored exceeds the available targeted memory space prior to the actual storage activity. This is the function of the write-logs and this language is taught to the extent required by the actual claim language. The figures of the reference clearly show each system using multiple local data

devices, multiple write-logs and multiple mirror devices as well a write-log extension pool. The concepts of the claimed language are taught to the extent required by the actual claim language. The reference teaches multiple storage devices and adding storage devices when the data to be stored would exceed the single storage device(s). Additionally, the cited section of Wahl teaches memory is assigned in such a method as to prevent overflow conditions which would not provide 'protected data'. Disk storage devices are added as required to safely store the data. Numerous sections of the reference clearly indicate additional disk storage is dynamically assigned or another disk storage device can be chained into the system

36. As to the limitations of 'storage control circuitry configured to assign individual ones of the individual storage devices to store data for respective one of the protected computer system', this limitation is taught. The computer systems which make up the network have their data mirrored or backed up thereby meeting the definition of the present invention as 'protected' systems. Each of the computer systems of the reference have multiple disks as shown in the figures of the reference. The reference also has numerous places in the disclosure which discusses the memory space is dynamically assigned. Paragraphs which detail is include col. 3, lines 24-37, col. 7, line 65 and col. 8, line 10. The reference also discusses the use of throttles for multifold purposes including determining overflow and underflow conditions of the writelog device with the writelog device being a memory device.

37. As to arguments directed to the reference not teaching '*storage control circuitry configured to assign individual ones of the individual storage devices*' to store data '*for respective ones of the protected computer systems*', the secondary computer system uses a remote mirror daemon which for storing data to the mirror disks. Mirroring data to the disks of the secondary computer system teaches assigning and using both primary and secondary storage

device for data from the primary storage system (e.g. see Figure 1). The reference teaches these elements as all data storage is ‘*assigned*’ as part of the addressing structure of the storage system. Data is always stored according to addressing specifics of the system, otherwise, the data could not be retrieved which would defeat the purpose of storing the data. The ‘*associate*’ language is equivalent to the ‘*assigning*’ language.

38. To make statements that the reference does not teach the storing of data is specious. Regardless of the reference having a cache and a write log, there are other memory devices which is a clear indication that data is both written to the memory devices and read from the memory devices.

39. Just as the claims must be read in light of the disclosure, the cited portions of the reference cannot be read out of context either. The entire reference has been applied and the Applicant is reminded that the entire reference must be taken into account for the meaning of the sections cited.

40. As to arguments concerning the use of MPEP 2114 (8th ed., rev 7) *being void of any authority the ‘wherein’ clauses cannot be relied upon for patentability*, is not incorrect. This section of the MPEP clearly states *apparatus must be distinguished from the prior art in terms of structure rather than function*.

41. As to the Applicant’s failure to uncover any teachings in the Wahl reference of quantities of data of the protected computer systems and individual data storage capacities of individual ones of the means for storing, these arguments are specious. The section cited, col. 3, lines 24-37, clearly indicate additional disks are added as needed to prevent overflow conditions which would otherwise corrupt data.

42. As to arguments directed toward the '*association*' language not being taught, the Wahl reference teaches systems capable of storing data, mirroring data and providing access to data. The '*association*' is taught to the extent required by the actual claim language.

43. As to the arguments directed toward assigning the new protected computer system to one of the storage devices in response to monitoring, the summary of the Wahl references states the computer network remote data mirroring system ports to many commercially available computer systems. The reference teaches adding computer systems to the network to the extent required by the actual claim language.

44. As to the reference not teaching '*monitoring capacities of the storage devices*', this limitation is discussed by the reference as the system requiring additional storage for a particular storage function. Also, a cited section of the reference discusses storage overflow conditions which indicates monitoring storage capacities.

45. As to arguments directed toward '*storage devices are external to the protected computer systems*', the reference teaches remote mirroring data in a secondary system. This limitation is taught to the extent required by the actual claim language, particularly, as the storage devices being external to the protected computer system has not be defined or discussed within the original specification. This language is now objected to as being new matter as it was not in the originally filed specification. As this is an objection and not a rejection this action can still be made final.

46. As to arguments directed toward '*coupling processing circuitry of the new storage devices with the storage control circuitry*' this concept is taught as the additional storage of the reference would be useless without such coupling. This argument is considered specious. This also applies to the arguments for the language '*a plurality of protected computer systems*

individually comprising processing circuitry configured to process data and storage circuitry configured to store the data'. All the computers, systems and networks discussed in the reference have processing circuitry, storage circuitry and data management circuitry. The systems discussed in the reference are considered operable which means these types of circuitry must be part of the reference systems.

47. Claims 48-51 have been added to the above anticipation rejection.

OFFICE ACTION FINALITY

48. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

CONCLUSION

49. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (571) 272-4192. The examiner can normally be reached on Monday and Thursday from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor

for AU 2189, Reginald G. Bragdon, can be reached for general questions concerning this application at (571) 272-4204. Additionally, the official fax phone number for the art unit is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center central telephone number is (571) 272-2100.

/Reba I. Elmore/
Primary Patent Examiner
Art Unit 2189

Tuesday, September 22, 2009
